

ABSTRACT OF THE DISCLOSURE

The present invention relates to the identification and characterization of a receptor associated with antigen presentation in immune responses, endocytosis, and trans-epithelial transport. Identification of the receptor, its characterization as having ten lectin-binding domains, and evidence of its role in the uptake and processing of oligosaccharides and oligosaccharide-decorated molecules, *e.g.*, glycoproteins, has important ramifications for modifying immune response, and for trans-epithelial transport of molecules. The receptor, or integral membrane protein, termed-herein "DEC," is found primarily on dendritic cells, but also found on B cells, brain capillaries, bone marrow stroma, epithelia of intestinal villi and pulmonary airways, as well as cortical epithelium of the thymus and the dendritic cells in the T cell areas of peripheral lymphoid organs. The murine and human counterparts of DEC have an apparent molecular mass of 205 kDa, the murine counterpart has an isoelectric point at pH 7.5, and carbohydrates comprise about 7 kDa of the total mass of murine DEC. The present invention is directed to identification of additional ligands of DEC, which can be advantageously targeted to dendritic cells and other cells that bear DEC. Targeting antigens for presentation by dendritic cells can provide for tolerance when the dendritic cells are quiescent, or for immune stimulation (*i.e.*, vaccination) when the dendritic cells are activated, *e.g.*, by stimulation with a cytokine or lymphokine, such as colony stimulating factor (CSF).